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## Children – Toxic Metals

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### Toxic Metals in Children

Children commonly have elevated hair levels of toxic metals. One reason is that young children have a rapid rate of metabolism. They eliminate toxic metals rapidly through the hair.

Children often acquire toxic metals through the placenta from their mothers. Toxicology books describe baby's bodies as '*sinks*' for toxic metals. If the mother is deficient in vital minerals, even more of the toxic metals may be acquired. These substitute for vital minerals in enzyme binding sites.

It seems cruel to pass toxic metals onto innocent babies. However, a child's fast oxidation rate makes it easier to eliminate toxic metals than it is for adults. This newsletter will discuss the effects of lead, cadmium, mercury, aluminum, iron, and nickel. We will not discuss copper, as it is covered in other articles.

### Lead Toxicity

Lead toxicity is far more common than imagined. Today, many cases of lead toxicity are overlooked. Lead has many toxic effects, as it replaces calcium in the bones and nervous system. Structural symptoms include rickets, fractures and tooth decay.

Calcium is very essential for the function of the nervous system. Lead toxicity is associated with mental retardation and hyperactivity in children. Epilepsy and impaired balance can occur. Lead can also interfere with blood formation and can result in fatigue and one type of anemia. Lead can interfere with iron and copper in the citric acid cycle, impairing energy production. Lead can also interfere with thyroid gland activity. Recent studies indicate there is no safe level of lead.

### Cadmium Toxicity

Elevated cadmium is common in children. Cadmium is a highly toxic metal. Sources include tap water, cigarette smoke and diets containing junk or refined foods. Cadmium causes problems by creating a zinc deficiency. Cadmium antagonizes zinc and will displace zinc in many enzyme binding sites. Zinc is required for the immune system, digestion, skin, wound healing, tissue regeneration, detoxification in the liver, and 40 or more other functions. Zinc also keeps tissues flexible, especially the arteries. Zinc is needed to help prevent birth defects, and is an important neurotransmitter substance.

Symptoms of cadmium excess in children include low resistance to illness, infections, fatigue, weakness, gas, bloating, food allergies or other digestive difficulties, and slow healing. Zinc is essential for growth and development. Children who are undersized or developing slowly often have a zinc imbalance, either a low zinc or a normal zinc level but with an elevated cadmium or an elevated copper level.

Cadmium toxicity contributes to behavior disorders, ranging from irritability and attention deficit to hostile or anti-social behavior. Again this probably relates to the displacement of zinc or of calcium.

When cadmium displaces zinc, it may contribute to a low zinc/copper ratio. In this manner, cadmium toxicity can contribute to the many symptoms of copper toxicity. Children who undergo physical or emotional stress are at increased risk for cadmium toxicity. This is because stress further depletes zinc reserves. Poor quality diets do not supply adequate zinc. This can worsen the balance of zinc to cadmium and zinc to copper.

Cadmium can increase the oxidation rate by elevating the sodium level. This can cause a susceptible child to become irritable, anxious, nervous, and hard to control.

### Aluminum Toxicity

Aluminum can be passed on to children during gestation, and is common in the environment. Common kitchen items such as grinders and pots may be sources of aluminum. Aluminum is also added to table salt. Children who consume beverages in aluminum cans may be exposed to much more aluminum, thus adding to their aluminum burden.

Aluminum can affect memory and one's ability to think properly. Symptoms can include confusion, irritability and possibly an impaired learning ability.

### Mercury Toxicity

Mercury toxicity is not quite as common as cadmium or aluminum in young children. It is more common in children whose parents eat a lot of fish and seafood, children who have silver amalgam fillings, or whose mothers have a number of silver amalgam fillings. Certain occupations and occasionally water supplies can be a source of mercury.

Mercury can increase the oxidation rate, making it even more difficult for a child to control their behavior and reactions to stress. Along with cadmium, mercury can contribute to attention deficit disorder, hyperactivity and other emotional difficulties.

Other neurological problems are seen, including pains, tingling, numbness, and auditory and visual disturbances. Mercury can cause kidney damage and endocrine problems.

### Iron Toxicity

Excess iron settles in the portion of the brain known as the amygdala. There it can cause feelings of rage and hostility. Most children with high iron levels are angry. Mothers and children acquire excess iron from water supplies and soils high in iron in certain areas of the nation. Many children's refined cereals are fortified with iron. While this may benefit some children, it may be harmful for others.

Today, we hear much about the problem of iron deficiency in children. However, an iron excess can be a serious problem if left uncorrected. Symptoms of excess iron include mood alterations, joint pain and eventually iron deposition in vital organs.

### Nickel Toxicity

Sources of nickel include hardened vegetable oils such as margarine, artificial whip creams, and commercial peanut butters. Nickel can cause skin problems, weakness, nausea, and muscle tremors.

### Prevention And Correction

Through nutritional balancing science, toxic metals oftentimes may be eliminated from the body. A year or more on a program may be required. Not only do symptoms often improve, but more serious illness may be prevented.

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